

Remarks

In the Final Office Action mailed December 9, 2003:

1. Claims 1, 2, 4, 6-9, 12 and 13 were rejected under 35 U.S.C. § 103(a) in view of Larson '807 (U.S. Patent No. 6,292,807) and Huang '991 (U.S. Patent No. 5,995,991); and
2. Claims 3, 5, 10, 11 and 14 were rejected under 35 U.S.C. § 103(a) in view of Larson '807 and Najork '984 (U.S. Patent No. 6,377,984).

I. Larson '807 (U.S. Patent No. 6,292,807)

Larson '807 is directed to a Method for Controlling Pipelined Memory Access Requests (title). Larson '807 is not designed for receiving or processing multiple types of messages from multiple sources, and therefore cannot teach or suggest all aspects of Applicant's invention.

A. Larson Does Not Receive Messages from a Communication Network or Messages that Have Source Identifiers

In claimed embodiments of the invention (e.g., claims 1, 8, 12), messages are received at one node from a communication network comprising multiple nodes. Each message has a source identifier and a type, so that any given message can be readily distinguished from messages from other sources and of other types.

Larson '807 is unworkable in a communication network. It is designed specifically for "controlling pipelined memory read and write requests in a computer system" (column 2, lines 42-43; emphasis added). In particular, the described methods are implemented to speed access to system memory by a graphics controller (Fig. 2; column 4, lines 18-25).

In Larson '807, AGP interface 52 receives only read and write requests from graphics controller 56 (Fig. 3; column 4, lines 51-60). Thus, the system and method of Larson need not deal with messages from multiple sources simultaneously. As a consequence of this difference, one skilled in the art wishing to determine how to efficiently process messages from numerous nodes in a communication network would not look to Larson '807 for a solution.

B. Larson Does Not Use a Message Store Having a Plurality of Slots for Storing Messages Received from a Network

In claimed embodiments of the invention (e.g., claims 1, 8, 12), a message store has

multiple slots for storing messages from a communication network. As described elsewhere in this section, Larson '807 does not receive messages from multiple nodes in a communication network, and could not work in such an environment.

In addition, Larson does not appear to include anything comparable to Applicant's message store. The Examiner cited Fig. 5 as teaching or suggesting this element of Applicant's invention but the citation appears misplaced. In particular, Fig. 5 shows read age FIFO 66 and write age FIFO 68, but messages are not stored in these FIFO queues. These FIFO queues merely store read age tags and write age tags, respectively, for requests from a graphics controller; they do not even store the indicated request numbers (column 6, lines 11-16).

C. Larson Cannot Identify a Message Store Slot by a Tag

In claimed embodiments of the invention (e.g., claims 1, 8, 12), a message store has multiple slots for storing messages from a communication network. Tag FIFO queues store tags associated with messages stored in the message store; in one embodiment, each tag FIFO queue corresponds to one message source and type of message from that source. A tag can therefore identify a specific slot in the message store, in which its associated message is stored.

In contrast, Larson '807 employs a read age tag to indicate how many write requests were received ahead of a given read request, and a write age tag to indicate how many read requests were received ahead of a given write request. The Examiner has compared the read age and/or write age FIFO queues of Larson with Applicant's message store. Although read age tags are stored in the read age FIFO queue and write age tags are stored in the write age FIFO queue, neither a read age tag nor a write age tag is capable of *identifying* a specific slot in an age FIFO queue.

Each age tag merely provides information regarding a read or write request, and a tag's entry in its FIFO queue does not even identify the number of the corresponding request (column 6, lines 11-16). There is also no indication in Larson '807 that read tags or write tags identify the specific slot in a Read Request queue or Write Request queue that stores a corresponding read or write request.

D. Larson Cannot Work as Cited Against Applicant's Invention

It is Applicant's understanding that the Examiner believes that the message store (of claims 1, 8, 12) is taught or suggested by the read age and/or write age FIFO queues of Larson (the rejection of the first element of claim 1 merely cites "Fig. 5"). Further, it appears that the Examiner is asserting that the Read Request and Write Request FIFO queues of Larson correspond to Applicant's "plurality of FIFO queues."

As a result, Larson cannot "load the given tag onto the selected FIFO queue" (as recited in claims 1 and 12), or "remov[e] the tag corresponding to the selected message from the corresponding FIFO queue" (as recited in claim 8), because this would require Larson to load or remove a read age tag (or write age tag) into or out of the Read Request FIFO queue (or Write Request FIFO queue). This would clearly make Larson inoperable.

Thus, if the Examiner does not accept Applicant's arguments that claims 1, 8 and 12 are allowable over Larson, the Examiner is requested to provide more detailed rejections of the individual elements of the claims.

II. Selected Claims

A. Claims 1-7

Claim 1 is directed to a method for reordering messages received from a communication network; as described in Section I, Larson does not teach or suggest this.

Claim 1 recites providing a message store having a plurality of storage slots configured to store messages received from a communication network. As described in Section I, Larson does not teach or suggest this.

In claim 1, a tag associated with a message stored in the message store can identify the specific slot in which the message is stored. As described in Section I, Larson does not store messages in the age tag FIFO queues that the Examiner has compared with Applicant's message store. In addition, Larson's read age tags and write age tags cannot identify a slot in which a specific request is stored.

Also as discussed in Section I, Larson '807 cannot load a tag onto a selected FIFO queue as recited in claim 1, because the "FIFO queues" in Larson supposedly correspond to Larson's Read Request and Write Request queues.

B. Claims 8-11

Claim 8 is directed to a method for reordering messages received from a communication network; as described in Section I, Larson does not teach or suggest this.

Claim 8 recites providing a message store having a plurality of storage slots configured to store messages received from a communication network. As described in Section I, Larson does not teach or suggest this.

In claim 8, FIFO queues (equated in the Office Action to Larson's read age and write age FIFO queues) contain tags that identify specific slots in the message store. This would apparently require Larson's tags to identify their own slots. And, as described in Section I, Larson does not appear to employ tags that can identify slots in which messages are stored.

Also as discussed in Section I, Larson '807 cannot remove a tag from a FIFO queue as recited in claim 8, because the "FIFO queues" in Larson supposedly correspond to Larson's Read Request and Write Request queues.

C. Claims 12-14

Claim 12 is directed to a device for reordering messages received from a communication network; as described in Section I, Larson cannot work with messages received from a multi-node communication network.

Claim 12 recites a message store having a plurality of storage slots configured to store messages received from a communication network. As described in Section I, Larson does not teach or suggest this.

In claim 12, the device is described as including logic for storing a message in a slot in the message store, wherein the slot is identified by a tag. This would apparently require Larson's tags to identify their own slots. And, as described in Section I, Larson does not appear to employ tags that can identify slots in which messages are stored.

Also as discussed in Section I, Larson '807 cannot load a tag onto a selected FIFO queue as recited in claim 12, because the "FIFO queues" in Larson supposedly correspond to Larson's Read Request and Write Request queues.

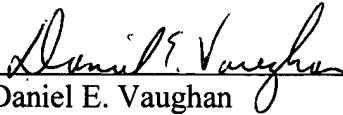
CONCLUSION

No new matter has been added with the preceding amendments. It is submitted that the

application is in suitable condition for allowance. Such action is respectfully requested. If prosecution of this application may be facilitated through a telephone interview, the Examiner is invited to contact Applicant's attorney identified below.

Respectfully submitted,

Date: March 2, 2004

By:  42,199
Daniel E. Vaughan (Registration No.)

Park, Vaughan & Fleming LLP
702 Marshall Street, Suite 310
Redwood City, CA 94063
(650) 474-1973: voice
(650) 474-1976: facsimile